

INTRODUCTION

The Trail Creek area is centered along the Meadow Creek Valley, which rests near the northeastern edge of the Gallatin Mountain Range. At the highest elevation of the area, Chestnut Mountain overlooks a diverse landscape of rolling hills, meadows, woodlands and open range. Located between the cities of Bozeman and Livingston, the Trail Creek area is home to active ranches and to those people who enjoy rural living. The Trail Creek Planning and Zoning District covers approximately 14.5 square miles, 6.5 square miles of which are public lands within the Gallatin National Forest and 1 square mile being state owned land.

Due to increased pressures for new residential development and concerns over unplanned growth within the area, Trail Creek area residents petitioned the Gallatin County Board of Commissioners in the summer of 1990 to create a County Planning and Zoning District. The Commission appointed a Citizens Advisory Committee to assess community goals and objectives, and advise the planning agency in the planning process.

The Trail Creek Plan is intended to guide future growth and development of the area by making recommendations for appropriate development. It is intended that by following these recommendations, the residents can preserve the natural, scenic and agricultural qualities of the area. The Plan has been prepared in accordance with the State of Montana land use and planning laws. The Trail Creek Planning and Zoning Commission shall be guided by and give consideration to the general policy and pattern of development set out in this plan and in the adoption of the zoning ordinance.

HISTORY

An industry which once made a large contribution to Bozeman's economy is almost forgotten, that of coal. Traveling over the Trail Creek Road today, it is hard to imagine that this area was once bustling with coal mines, sawmills, and a railroad.

Coal was first mined in the area by James D. Chestnut. The surface coal was full of slate, and he was forced to go deeper for burnable coal. He persevered and by the mid-1870's there were enough coal burning stoves in Bozeman to make mining coal a profitable enterprise. Other mines in the area were Mountainside, Maxey, Hoffman, and Chimney Rock. In the early 1900's Amalgamated Copper Company, later Anaconda Copper Co., started mining coal for its smelting operations. The coal was mined in the area, and fifty coke ovens were constructed to convert the coal to coke for the smelting operations. Anaconda Copper platted and built the town of Storrs. Storrs which was located 2.6 miles east of the I-90 underpass, was once a thriving community of 800 people. The town boasted both running water and electricity. Built in 1902, the last postal service to the town was May 15, 1908, and the entire town was dismantled in 1910. All that remains are deteriorating coke ovens.

Chestnut, located just out of the planning district, was the rail center for the area. The Turkey Trail Railroad ran from Chestnut, through Meadow Creek and four miles down trail creek to the Maxey

Mines. The Railroad was built in 1899 and discontinued in 1918. "At the summit the county road travels through the cut made for the Turkey Trail Railroad."¹

Sawmills were built to furnish material for logging, timbering, trestling, ties, and buildings. The sawdust produced as a by-product for the area was used for insulation, floor covering, and packing. The last sawmill in the area closed in the mid 1940's.

Today, the Trail Creek area is sparsely populated, with approximately 15 families living in the planning area. There are few signs of the activity that once took place in the area, and it remains quiet and unpopulated.

(photo)

COMPREHENSIVE PLAN GOALS AND POLICIES

The objective of the Trail Creek Plan is to guide future growth within the Trail Creek area while protecting the natural beauty and rural open space character. The plan is intended to aid Trail Creek residents, property owners, interested citizens, and businessmen, agricultural enterprises, governmental agencies, and county planning staff and planning and zoning commissioners in reaching decisions on the proper use of land within the Trail Creek area.

In the course of preparing the plan, the Trail Creek Planning Advisory Committee was asked to document community values and attitudes, resulting in a list of recommended goals, as shown below.

1. Maintain the rural, natural and scenic qualities of the area by preserving agricultural land, forest lands, significant open space, and land values.
2. Preserve property rights to the greatest extent possible while achieving planning and zoning goals.
3. Plan growth so as to maintain the rural lifestyle and to achieve harmony with the environment.
4. Preserve and enhance fish and wildlife habitats.
5. Maintain the rural residential character by limiting commercial business and allowing small home business.

¹Whithorn, Bill and Doris, Photo History of Livingston-Bozeman Coal Country. Livingston Enterprise, 1954, page 23.

6. Maintain rural and agricultural lifestyles.

The following policies were developed to establish the intent and direction of planning activities within the Trail Creek Planning and Zoning District.

1. Preserve agricultural land and open space by adopting zoning provisions that regulate development densities.
2. Adopt zoning provisions that regulate inharmonious uses of land including mining, gravel pits, oil and gas development, junkyards and landfills.
3. Adopt zoning provisions that regulate commercial businesses and allow for home occupations and agricultural related businesses.
4. Protect stream channels and riparian vegetation from unnecessary alteration or disturbance through the administration of the Montana Natural Streambed and Land Preservation Act.
5. Coordinate both public and private forest management practices and recommend logging guidelines designed to protect and conserve timber resources.
6. Adopt planning recommendations that preserve natural vegetation where its removal would cause slope failure, soil erosion, or significant visual damage.
7. Adopt planning recommendations that discourage development in areas of active landslides, faults, steep slopes, unstable soils, or avalanche areas.
8. Adopt planning recommendations that preserve the fish and wildlife habitat.
9. Adopt design standards for all new construction in the zoning ordinance.

NATURAL RESOURCE INVENTORY AND PLANNING RECOMMENDATIONS

This chapter identifies and describes the natural resources within the Trail Creek Planning and Zoning District. A brief narrative, land use recommendations and maps, where necessary, have been prepared for each category. Information set forth in this chapter will provide a means to preserve the unique characteristics of the area and serve as a guideline for proper land use decisions.

TOPOGRAPHY

The Topography Map, Map 1, for the Trail Creek Planning area depicts elevation contour lines having intervals of 80 feet. The map is intended to provide data in determining slope calculations for proposed developments.

From an overall perspective, the Trail Creek Planning area ranges approximately four (4) miles north to south, and five (5) miles east to west. As depicted on the map, the topographic landscape consist of mountain ridge tops running along the northeast and southwest boundaries of the planning area. The topography then rolls gently down slope from the ridge tops to form the Meadow Creek valley. The lowest elevation within the planning area is approximately 5200 feet above sea level, located where Meadow Creek joins Rocky Creek. The highest point is Chestnut Mountain at over 7000 feet above sea level, located along the southwestern boundary of the planning area.

Slope gradients within the Trail Creek Planning area are among the most important factors effecting development. Increased hazards to the environment and to the beauty of the natural landscape are present when steep slopes are subject to development. Development on slopes exceeding 15% in grade are subject to excessive scarring caused by construction, extreme soil and bank erosion, decreased soil and bank stability, high velocity runoff, and create poor visual qualities. Areas with slopes up to 25% can be satisfactorily developed provided that there are no environmental restrictions and great care is taken during construction. Generally, development is acceptable on slopes below 15% in gradient.

Recommendations:

1. Development be directed to more level areas.
2. Development is discouraged on slopes greater than 15%.
3. Slopes in excess of 25% be retained in their natural condition.
4. Roads not be constructed having slopes in excess of 12%.
5. All sites disturbed by construction should be reseeded with native vegetative species.

GEOLOGY

The Geology of the Trail Creek Planning is a series of complex folds and faults. Folded sedimentary rocks underlain by precambrian metamorphic rock characterize the general geology of the area. On-site investigations to determine faulted areas should be conducted prior to any construction.

From a planning perspective, it is necessary to consider the stability of a formation and areas of significant faulting when developments are proposed. Another potential hazard zone which needs to be given consideration are areas of historic instability, such as landslides and slumps.

Recommendations:

1. Because of the diverse geologic conditions within the area, specific and detailed investigations should be conducted to determine the suitability of each area for any proposed development.

2. Areas of significant faulting should be avoided when siting structures such as roads, buildings or utilities.
3. Proposed developments in areas of active rock slides or avalanches should be avoided.
4. Roadways, building foundations and other construction be designed to recognize potential areas of landslide and mass gravity movement.

WATER

The primary waterways traversing the Trail Creek Planning District are Meadow Creek, Rocky Creek, Timberline Creek, and Goose Creek. All surface drainage from the area is received by the East Gallatin River.

Surface waterways carry irrigation water, provide water for livestock, help recharge groundwater supply, provide convenient fishing, and are an aesthetic resource of the area. The development and utilization of surface water resources and the economic distribution within the Trail Creek Planning area focus on protecting existing uses and assuring adequate future supplies for agriculture, domestic, wildlife and other beneficial uses.

Surface waterways, including irrigation canals, are most seriously threatened by erosion and sedimentation associated with construction and agricultural practices. To ensure that waterways be protected and properly maintained, setback requirements are set forth in the Trail Creek Zoning Ordinance.

Trail Creek Planning area's quality water is attributable to pristine source conditions, light population densities and moderate intensity of land use activity. Changes in any of these conditions pose the potential for degradation of water quality. Extreme caution must be taken to avoid pollution of the surface streams and aquifers of the region.

Recommendations:

1. Provide setback requirements from all waterways to provide protection and proper maintenance.
2. Anyone planning to work in or near a stream should contact the Gallatin Conservation District Office to obtain information for appropriate permits.
3. Any development should be understood to be contingent upon the development of a satisfactory source of ground water on the site for domestic uses.
4. Disposal of liquid wastes should be investigated individually for each proposed development.

5. Every person asserting a claim to an existing right to the use of water is required to file a statement of claim to that right on a form provided by the Montana Department of Natural Resources and Conservation (DNRC).

SOILS

Soils within the Trail Creek Planning Area support a mixture of grass and conifer vegetation. Forest soils characterize the higher elevation of the planning area, while agricultural soils make up the foothills and valley floor. The Soil Conservation Service is in the process of doing a soil survey in the planning area. The field work should be complete by the Summer of 1991.

General descriptions of soils in specific areas are useful in predicting the potential problems which might be encountered during private and public construction projects. However, on-site investigations for all new construction should be conducted.

Recommendations:

1. Site specific soil investigations are encouraged for any proposed development and construction.
2. Erosion control measures be employed in conjunction with any development and construction.
3. Development and construction is best suited for those areas having poor agricultural soils
- 4 All sites disturbed by construction be reseeded.
5. County weed control standards are in effect for all construction and development

VEGETATION/TIMBER

The Trail Creek Planning area hosts an abundance and variety of vegetative cover. Vegetation types vary due to climatic and soil differences from the valley floor to the timber highlands.

The steeper high elevation terrain consist primarily of lodgepole pine and douglas fir, interspersed with Aspen, forest understory and other grasses.

The gently sloping hills and valley floor consist primarily of grassland communities such as dryland pasture, hayfields, and native grasses, forbs and shrubs.

The creek bottom, or riparian vegetative, communities are found adjacent to creeks and areas with high water tables. Here the dominant species are Aspen, Cottonwood, Alder, Wild Plum and Willow. These species rapidly grade to Chokecherry, Hawthorne and Wild Rose shrub as the availability of water diminishes.

There are no known critical plant communities within the boundaries of the Trail Creek Planning area.

A substantial amount of land within the Trail Creek Planning area consists of private and publicly owned forest lands. The forested hillsides are an important visual and commercial resource to the residents of the area. Therefore, it is recommended that any logging activities be coordinated through the Trail Creek Planning Advisory Committee, the Gallatin National Forest and the Department of State Lands. Listed in Appendix 1 are guidelines available for private landowners for adopting and implementing the best management practices for forestry in Montana. These guidelines were created by the U.S. Forest Service and the Montana Department of State Lands.

Recommendations:

1. Retain native vegetation as it is an important visual resource.
2. Encourage the location and design of homesites which incorporate existing trees and other vegetation.
3. Minimize the cutting of trees around homesites.
4. Encourage the planting of trees along driveways and homesites.
5. Retain vegetation so as to preserve and maintain watershed protection, soil stability and scenic values.
6. Follow best range management practices in order to control and eradicate noxious weeds.
7. Timber cutting should be in accordance with the Best Management Practices for Forestry as addressed in Appendix 1.

CLIMATE

The Trail Creek Planning Area experiences a variety of climatic conditions throughout the year. While there are no significant climatic factors that would severely limit development, storms, wind and snowfall activities must be taken into account when planning for future development uses.

In the valley floor and foothills at elevations under 6,000 feet, annual precipitation ranges from 18 to 24 inches, and increases up to 50 inches annually in those areas over 6,000 feet in elevation. The highest monthly precipitation amounts occur during late spring and early summer. This heavy precipitation is often associated with thunderstorms. At higher elevations, the greatest precipitation amounts occur in the winter, usually in the form of snow.

Snowfall within the Trail Creek Planning Area directly affects snow removal costs on roads and parking lots; suitability for housing developments; and wintering areas for wildlife. Average annual

snowfall for the Trail Creek Planning Area ranges from 60 inches in the lower elevations to over 200 inches of snow occurring in the higher elevations. The area is also prone to heavy snow drifting. It is important that homes, bridges, recreation facilities, and other structure be designed to withstand the heavy snow loads. To assist with the design of structures in the planning area, snow loads for a 50 year frequency have been determined from snow survey data.

Temperatures in the summer feature warm days and cool nights, with freezing temperatures possible at higher elevations. Winters can be quite cold with temperatures falling to below -40 degrees F on occasion. Occasional winter time inversions result in warmer surface temperatures.

Thunderstorms are relatively common in late spring and summer. They may produce locally strong winds, hail and high precipitation amounts in short periods. During these storms, lightning caused fires can occur in forested areas.

Prevailing winds are from the west and northwest. Gentle breezes occur during the summer months. High winds are most often associated with thunderstorms.

Recommendations:

1. Building sites should utilize south facing slopes.
2. Construct buildings with appropriate snow load strength capacities.
3. Avoid building sites exposed to severe snow drifting.
4. Obtain snow removal equipment to clear driveways.

FISH AND WILDLIFE

A natural wonder of the Gallatin Mountain Range is the numerous species of wildlife. Mule deer, whitetail deer, bear, elk, moose, coyote, and even mountain lions are found in the Trail Creek Planning area along with various small animals. Deer and elk populations utilize the lower elevations of the planning area for winter survival. Careful consideration should be given to development proposals which coexist with wildlife habitats.

A wide variety of bird species are found within the planning area. Waterfowl include geese, blue heron and ducks. Upland game birds include grouse. Eagle, hawk and owl species are the areas birds of prey. Bird survival is sensitive to environmental changes. Destruction of both wetland and dryland vegetation could severely reduce habitat for all species within the Trail Creek Planning area.

Trout species are found in Meadow Creek, Goose Creek and Rocky Creek. Trout survival is dependent on the water quality of the streams. Quality fishery maintenance will be subject to erosion and pollution controls during and after construction.

Recommendations:

1. Minimize development on critical wildlife survival areas.
2. Maintain appropriate vegetative cover and riparian areas conducive to wildlife habitat.
3. Bear-proof garbage facilities should be used where needed.
4. Avoid construction in and around streams to maintain high water quality.

POPULATION

The current population of the Trail Creek Planning and Zoning District is estimated to be sixty-five (65) people. Sixty (60) are year-round residents and five (5) are seasonal. In 1980 approximately 13 people resided in the district.

Based on past population growth, it is estimated that the population will reach one hundred and twenty (120) by the year 2000.

SERVICES

Police protection for the area is provided by the Gallatin County Sheriff's Department.

Fire Protection is provided by the Fort Ellis Volunteer Fire Department.

Both telephone service, provided by U.S. West, and Electricity, provided by Montana Power, were extended to the Trail Creek Area four years ago.

School-age children attend either the Lamotte or Malmborg Rural Schools through the eighth (8th) grade. They then attend Bozeman Senior High School .

LAND USE-DEVELOPMENT PLAN**INTRODUCTION**

The Trail Creek Planning and Zoning District is an area of approximately 9,440 acres. Land use in the district is primarily, forestry, agricultural, and rural residential (10-20 acre) parcels.

Forest Service and State Lands comprise approximately 1440 acres of the planning area. See Map 1. Residents of the area want to maintain the rural character, with an emphasis on agricultural pursuits and the preservation of open space. Commercial development is not expected to occur in the district, because of low population density, limited circulation, and proximity to Bozeman.

RESIDENTIAL AGRICULTURAL

To preserve the rural atmosphere, and to protect the natural and agricultural features low density residential development is suggested for the zoning district. Much of the district also has physical limitations to development, such as soils and slopes. Therefore, one unit per twenty (20) acres is suggested.

Manufactured housing is allowed in the district, however exterior appearance requirements must be met by all single family homes. Manufactured homes must also meet HUD standards for construction. Home based business are allowed providing they meet certain standards. The standards are designed to protect the rural atmosphere of the community as well as protect public health and safety in the area.

Agriculture

People who live in the Trail Creek Zoning District either make their living in agriculture or were attracted to the area because of the rural atmosphere. Recognizing the economics of agriculture, fewer zoning restrictions are placed on agricultural activities. To encourage agricultural production, permitted uses in the District include the on-site sale of agricultural products, on-site gravel pit for agricultural use and accessory living structures for employees.

Weed Control

Residents are encouraged to control and eradicate noxious weeds on their property. SCS range management standards for livestock grazing are encouraged to minimize soil erosion and the spread of noxious weeds. Gallatin County has established a weed control district according to Montana law. The purpose of the district is to enforce all pertinent Montana Noxious Weed Control Law's and to manage all noxious weeds according to those laws. Programs offered by Gallatin County include herbicide cost sharing, sprayer rentals, and noxious weed mapping and plan development. For information on weed control, write: Gallatin County Weed Control District, RM 304, Courthouse, Bozeman, MT 59715, or call 585-1359.

CLUSTER DEVELOPMENT

It is the intent of this plan that any significant development will be through the use of the cluster development concept. Proposal for cluster development are considered by the Zoning Commission through the planned unit development procedure and are conditional uses. The land use map designates areas that are considered suitable for cluster development. The intent of the cluster development concept is to:

Plan the development to fit the topography, soils, geology, hydrology, and other conditions on the proposed site;

Utilize land that includes some areas that are unsuitable for development.

Enhance and preserve open space and unique natural areas;

Preserve agricultural lands;

Minimize disruption of existing plant and animal life.

To preserve the rural atmosphere, a planned unit development if bordering a county road, may not be adjacent to an existing or approved planned unit development. Cluster sites must be at least 100 acres in size. A maximum of 6 dwelling units per one hundred (100) acres is allowed within the planned unit development. In all planned unit developments at least 70% of the land must be designated as common open space. Additional criteria for Planned Unit Developments are found in the Zoning Ordinance. Uses of the open space will be decided on an individual basis for each Planned Unit Development.

DEVELOPMENT OF NATURAL RESOURCES

It is not the intent of this plan to prohibit the development of natural resources, but to provide an opportunity for review, public comments and consideration of conditions for approval. The Zoning Ordinance addresses specific conditions for natural resource development including mineral extraction.

PARKLAND

Community Parks are not designated on the land-use map, however if in the future an opportunity arises to develop a community park or community center, it is allowed as a conditional use within the Agricultural-Residential (R-20) Zone.

AMENDMENT PROCEDURE

This Plan may be amended whenever the public interest and the general welfare require such amendment and according to the following procedure.

- A. The petition of one or more land owners or of property affected by the proposed amendment, which petition shall be signed by the petitioning land owners and shall be filed with the Planning Office and shall be accompanied by a fee of \$125.00 payable to the County of Gallatin, no part of which shall be returnable to the petitioner; or by
- B. Resolution of intention of the Board of County Commissioners; or
- C. Resolution of intention of the Trail Creek Planning and Zoning Commission.

Notice of Hearing: Whenever an application for a plan amendment is filed, a public hearing thereon shall be held within sixty (60) calendar days after the filing of the application. At least fifteen (15) days before such hearing, the Planning and Zoning Commission shall:

- A. Mail notice to all persons owning property within 300 feet of the exterior boundaries of the area occupied or to be occupied by the use for which the permit is sought, or
- B. Give notice by publishing notice of hearing twice in the newspaper of general circulation in this county.

Decision: After completion of the public hearing, the Trail Creek Planning and Zoning Commission shall make its decision in writing.

CONCLUSION

This Trail Creek Plan is intended to guide those involved in the development process in the Trail Creek Zoning District, including interested citizens, developers, and those who make land use decisions. A policy direction is set forth in this document which reflects the special needs of the Trail Creek area. As these needs change, it will be necessary to update this plan. Until that time, adherence to the concepts of the plan will be necessary to assure development consistent with the desires of those residing in the Trail Creek Zoning District.